

Please provide additional details supporting your total capital costs and total project cost estimates per sections 6.3 and 6.4 of the Technical Reference.

For the Inland Empire Utilities Agencies (Agency) proposed project, the Agency developed design details and costs estimates for construction of advanced water treatment and distribution facilities that would recharge up to 15,000 acre-feet per year in the Chino groundwater basin. The proposed project components, as listed below, include the necessary treatment and distribution facilities to ensure that the supplemental water pumped into the feeder extensions will meet or exceed all water quality requirements. The Agency proposed project assumes utilization of existing wastewater treatment plants to provide preliminary treatment prior to the advanced treatment process.

- **Item 1:** Baseline Feeder Extension #1 to CVWD/FWC
- **Item 2:** Baseline Feeder Extension #2 to WFA
- **Item 3:** Pipelines from Wells to Baseline Feeder
- **Item 4:** Pump Station
- **Item 5:** New Production Wells (10)
- **Item 6:** Existing Production Wells (10) (no additional cost to project)
- **Item 7:** New Treatment for Wells (10)
- **Item 8:** Pipeline and Connections for Wells (20)
- **Item 9:** Water Supply Commitment
- **Item 10:** Advanced Water Treatment of IEUA's Recycled Water
- **Item 11:** Advanced Water Treatment of RW w/Pomona & MVWD

The cost estimate is shown in Table B.1 and Table B.2 of the Cost Benefit Analysis provided in the WSIP grant application, and in Table 1 of A8 – Project Cost estimate. Provided below is supplemental information used by the Agency to estimate the capital costs for the proposed project.

BASIS FOR CAPITAL COST ESTIMATES

The capital cost estimate summary is shown in Table 1 (under Attachments). Table 1 includes details regarding the capital cost estimate, including design costs, construction costs, unit costs, and contingency. Supporting information, including specific conditions and qualifications, are listed below.

Specific Conditions and Qualifications

- The estimate is based on an evaluation of the major construction items appropriate to complete the work and quantity estimates for these elements developed from the preliminary design. Estimated lump sum and unit prices include allowances for prime contractor and subcontractor overhead and profit. In general, pricing reflects State of California prevailing wage rates. In general, construction work is based on an estimate of crews and equipment, and concrete work is based on actual prices from other projects in Southern California.
- Actual project construction costs can be affected by a number of presently uncertain factors, such as supply and demand for the types of construction required at the time of bidding and in the project

vicinity; changes in material supplier costs; changes in fuel costs; changes in labor rates; the competitiveness of contractors and suppliers; changes in applicable regulatory requirements; and changes in design standards.

- Pricing is based on 2016 dollars.
- A 30% cost contingency has been included over the estimate subtotal to address pricing uncertainties and changes during construction.
- Construction costs are representative of system facilities under normal construction conditions and schedules.
- Costs have been estimated for public works construction and are based on Class 5 Planning Level assumptions.
- Further detailed project costs will be developed in the Feasibility Study phase, and will account for updated labor and material costs, market conditions, final project details, schedule, and other variables.
- Design Cost: Includes design, project administration, permits, land acquisitions, environmental, easements, etc.
- Construction Cost: Includes construction management, contractor costs, equipment, and other related capital costs.

Supporting Construction Cost Information

- Pipeline construction costs based on Engineering News Record:

Baseline Feeder Extension #1 to CVWD/FWC (Item 1)	24"	\$465	per LF	39,700	LF	\$18.5M
Baseline Feeder Extension #2 to WFA (Item 2):	24"	\$465	per LF	26,500	LF	\$12.3M
Pipeline from Wells to Baseline Feeder (Item 3):	6"	\$170	per LF	72,400	LF	\$12.3M

- Pump Station (**Item 4**): @\$6,000 per hp, @1,500 hp: \$9.2M
- New Production Well construction costs based on similar Agency projects (**Item 5**): \$1.2M per well.
- New Treatment for Wells construction costs based on similar Agency projects (**Item 7**): \$2.5M per well.
- Pipeline and Connections for Wells (**Item 8**): 100,000 LF of 6" Diameter pipeline at \$170/LF, including valves and appurtenances, for a total of \$24M.
- Water supply commitment (**Item 9**): Per the Project Elements, assumption is to acquire 15,000 acre-feet per year for 25 years (B.1.1.1). Acquisition cost estimated at \$250/acre-foot.
- Advanced Water Treatment of IEUA's Recycled Water (**Item 10**):
 - Assumed unit cost: \$6.15M/MGD.
 - 10 MG capacity
 - Estimated cost (design and construction): \$61.5M
- Advanced Water Treatment of RW w Pomona & MVWD (**Item 11**):
 - Advanced Water Treatment:

- Assumed unit cost: \$6.15M/MGD.
- 5 MG capacity
- Estimated cost: \$30.8M
- Pump Station (@\$6,000 per hp, @500 hp): \$3.0M
- Injection Wells (6 @ \$2.7 M each): \$16.2M
- Pipeline
 - 16" 33,160 LF \$330/LF \$10,942,800
 - 10" 2,400 LF \$225/LF \$540,000
 - 6" 350 LF \$170/LF \$59,500
 - Total Estimated Cost: \$11.5M
- Total AWT IEUA/MVWD/Pomona Estimated Construction Cost: \$61.5M

ATTACHMENTS

Table 1 - Capital Cost Estimate (see next page)

TABLE 1 - CAPITAL COST ESTIMATE

Project Component	Quantity	Design Cost	Con-struction	Sub-Total	Con-tingency	Capital Cost		Replacement Cost	
		\$M	\$M	\$M	30%	Unit Cost (\$M)	Total (\$M)	% Capital Cost	Replace-ment Cost
Baseline Feeder Extension #1 to CVWD/FWC	LS	4.6	18.5	23.1	6.9	\$30	\$30	-	-
Baseline Feeder Extension #2 to WFA	LS	3.1	12.3	15.4	4.6	\$20	\$20	-	-
Pipelines from Wells to Baseline Feeder	2	3.1	12.3	30.8	9.2	\$20	\$40	-	-
Pump Station	LS	2.3	9.2	11.5	3.5	\$15	\$15	60%	\$9
New Production Wells (10)	10	0.3	1.2	15.4	4.6	\$2	\$20	40%	\$8
Existing Production Wells (10)	10	-	-	-	-	-	-	40%	-
New Treatment for (10) Wells	10	0.6	2.5	30.8	9.2	\$4	\$40	40%	\$16
Pipeline and Connections for (20) Wells	20	0.3	1.2	30.8	9.2	\$2	\$40	-	-
Water Supply Commitment	LS	-	-	-	-	\$95	\$95	-	-
Advanced Water Treatment of IEUA's Recycled Water	LS	12.3	49.2	61.5	18.5	\$80	\$80	40%	\$32
Advanced Water Treatment of RW w/Pomona & MVWD	LS	15.4	61.5	76.9	23.1	\$100	\$100	40%	\$40
Total Capital Cost							\$480		\$105